

CLAIMS:

1. A LC controllable oscillator (LCCO) (1) comprising
- a voltage controlled oscillator (VCO) (102), a first voltage controlled current source (VCCS) of a first type (101) for supplying a current (104) to the VCO (102), the VCO being realized with a first pair (301) of VCCS of the first type coupled with a second pair (302) of VCCS of a second type and a LC resonator adapted for generating a periodical oscillation frequency which is controllable by a control signal (V),
 - a first (SUP) conductor and a second (REF) conductor for connection to an external direct voltage source (105) characterized in that
 - the LCCO (1) further comprises a replica scaled bias module (RSBM) (103) supplied from the external voltage source (105) via the first conductor (SUP) and the second conductor (REF),
 - the RSBM (103) is conceived to generate a control signal (BIAS CONTROL) for controlling the supplied current (104) delivered by the first VCCS (101) to the VCO (102).
2. A LCCO (1) as claimed in Claim 1 wherein the RSBM (103) comprises a second (201), a third (202) and a fourth (203) VCCS, the second and the third VCCS being of the first type, the fourth VCCS being of the second type.
3. A LCCO (1) as claimed in Claim 1² in which the RSBM (103) further comprises a current source of the first type (205) and a fifth VCCS of the second type (204) that are coupled in a first input node (I1) of a differential voltage controlled voltage source (VCVS) (206) that further comprises a second input (I2) that is coupled with the fourth VCCS (203) for supplying the signal (BIAS CONTROL) for controlling the supply current (104) in the VCO (102).
4. A module (300) comprising a LCCO (1) as claimed in Claim 1 coupled with a phase shifter (301), controlled by the control signal (V), the phase shifter (301) being conceived to provide a first intermediate signal (S1) and a second intermediate signal (S2) to

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